I claim:

1. A method for compensating for a phase error in a transmission system having I and Q signal processing paths, comprising the following steps:

- programming a phase error $\Delta\phi$, previously ascertained by measurement, in a radio frequency transmission stage used in the transmission system into the digital signal processing section of the transmission system when the transmission system is first fitted or when it is maintained; and
- computing phase corrected I and Q signal components in a digital signal processing section of the I and Q signal processing paths during transmission mode by correcting I and Q signal components with the programmed constant phase error $\Delta\phi$.

2. The method as claimed in claim 1, wherein the computation is performed on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} \cos(\Delta\phi / 2) & -\sin(\Delta\phi / 2) \\ -\sin(\Delta\phi / 2) & \cos(\Delta\phi / 2) \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

or on the basis of an approximation of this equation, where I and Q are the I and Q signal components containing phase errors, $I(\Delta\phi)$ and $Q(\Delta\phi)$ are the phase error compensated I and Q signal components, and $\Delta\phi$ is the phase error used for the correction.

3. The method as claimed in claim 2, wherein the computation is performed on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} 1 - \Delta\phi / 2 & -\Delta\phi / 2 \\ -\Delta\phi / 2 & 1 - \Delta\phi / 2 \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

4. The method as claimed in claim 1, comprising the following step:

- ascertaining a value for the phase error $\Delta\phi$ used for the correction using a statistical method based on measurements of the phase errors in a multiplicity of radio frequency transmission stages and radio frequency reception stages.

5. The method as claimed in claim 1, comprising the following step:

- ascertaining a value for the phase error $\Delta\phi$ used for the correction by measuring the phase error in a particular radio frequency transmission stage or radio frequency reception stage.

6. A method for compensating for a phase error in a reception system having I and Q signal processing paths, comprising the following steps:

- programming a phase error $\Delta\phi$, previously ascertained by measurement, in a radio frequency reception stage used in the reception system into the digital signal processing section of the reception system when the reception system is first fitted or when it is maintained; and
- computing phase corrected I and Q signal components in a digital signal processing section of the I and Q signal processing paths of the reception system during reception mode by correcting I and Q signal components containing phase errors with the programmed constant phase error $\Delta\phi$.

7. The method as claimed in claim 6, wherein the computation is performed on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} \cos(\Delta\phi / 2) & -\sin(\Delta\phi / 2) \\ -\sin(\Delta\phi / 2) & \cos(\Delta\phi / 2) \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

or on the basis of an approximation of this equation, where I and Q are the I and Q signal components containing phase errors, $I(\Delta\phi)$ and $Q(\Delta\phi)$ are the phase error compensated I and Q signal components, and $\Delta\phi$ is the phase error used for the correction.

8. The method as claimed in claim 7, wherein the computation is performed on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} 1 - \Delta\phi / 2 & -\Delta\phi / 2 \\ -\Delta\phi / 2 & 1 - \Delta\phi / 2 \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

9. The method as claimed in claim 6, comprising the following step:

- ascertaining a value for the phase error $\Delta\phi$ used for the correction using a statistical method based on measurements of the phase errors in a multiplicity of radio frequency transmission stages and radio frequency reception stages.

10. The method as claimed in claim 6, comprising the following step:

- ascertaining a value for the phase error $\Delta\phi$ used for the correction by measuring the phase error in a particular radio frequency transmission stage or radio frequency reception stage.

11. A reception and/or transmission system having I and Q signal processing paths, comprising a computation unit which is provided in a digital signal processing section of the I and Q signal processing paths and performs phase correction for the I and Q signal components, wherein the computation unit is operable to program a phase error $\Delta\phi$, previously ascertained by measurement, in a radio frequency transmission stage used in the transmission system into the digital signal processing section of the transmission system when the transmission system is first fitted or when it is maintained; and the computation unit is further operable to compute phase corrected I and Q signal components in a digital signal processing section of the I and Q signal processing paths during transmission mode by correcting I and Q signal components with the programmed constant phase error $\Delta\phi$.

12. The reception and/or transmission system as claimed in claim 11, wherein the computation unit is designed to perform the computation on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} \cos(\Delta\phi / 2) & -\sin(\Delta\phi / 2) \\ -\sin(\Delta\phi / 2) & \cos(\Delta\phi / 2) \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

or on the basis of an approximation of this equation, where I and Q are the I and Q signal components containing phase errors, $I(\Delta\phi)$ and $Q(\Delta\phi)$ are the phase error compensated I and Q signal components, and $\Delta\phi$ is the phase error used for the correction.

13. The reception and/or transmission system as claimed in claim 12, wherein the computation unit is designed to perform the computation on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} 1 - \Delta\phi / 2 & -\Delta\phi / 2 \\ -\Delta\phi / 2 & 1 - \Delta\phi / 2 \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

14. The reception and/or transmission system as claimed in claim 11, wherein the computation unit is designed to perform the computation on the basis of the CORDIC algorithm.

15. A reception and/or transmission system having I and Q signal processing paths, comprising a computation unit which is provided in a digital signal processing section of the I and Q signal processing paths and performs phase correction for the I and Q signal components, wherein the computation unit is operable to program a phase error $\Delta\phi$, previously ascertained by measurement, in a radio frequency reception stage used in the reception system into the digital signal processing section of the reception system when the reception system is first fitted or when it is maintained; and the computation unit is further operable to compute phase corrected I and Q signal components in a digital signal processing section of the I and Q signal processing paths of the reception system during reception mode by correcting I and Q signal components containing phase errors with the programmed constant phase error $\Delta\phi$.

16. The reception and/or transmission system as claimed in claim 15, wherein the computation unit is designed to perform the computation on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} \cos(\Delta\phi / 2) & -\sin(\Delta\phi / 2) \\ -\sin(\Delta\phi / 2) & \cos(\Delta\phi / 2) \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

or on the basis of an approximation of this equation, where I and Q are the I and Q signal components containing phase errors, $I(\Delta\phi)$ and $Q(\Delta\phi)$ are the phase error compensated I and Q signal components, and $\Delta\phi$ is the phase error used for the correction.

17. The reception and/or transmission system as claimed in claim 16, wherein the computation unit is designed to perform the computation on the basis of

$$\begin{bmatrix} I(\Delta\phi) \\ Q(\Delta\phi) \end{bmatrix} = \begin{bmatrix} 1 - \Delta\phi / 2 & -\Delta\phi / 2 \\ -\Delta\phi / 2 & 1 - \Delta\phi / 2 \end{bmatrix} \begin{bmatrix} I \\ Q \end{bmatrix}$$

18. The reception and/or transmission system as claimed in claim 15, wherein the computation unit is designed to perform the computation on the basis of the CORDIC algorithm.